DELTA 8 R

DELTA 8 WHITE + AMBER R

DELTA 8 FULL COLOUR R

DELTA 8 RGB R

User's Manual rel 1.1 **GB**

D.T.S. Illuminazione srl - ITALY
http://www.dts-lighting.it

DTS
The Lighting Company

Made in Italy

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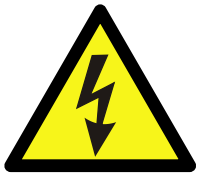
1- SYMBOLS

Graphic symbols used on this manual

THIS SYMBOL INDICATES A HOT SURFACE



THIS SYMBOL INDICATES ELECTRIC SHOCK RISK

THIS SYMBOL INDICATES GENERAL RISK

THIS SYMBOL MEANS “DO NOT PLACE THE UNIT ON INFLAMMABLE SURFACES”

THIS SYMBOL INDICATES THE MINIMUM DISTANCE TO BE KEPT BETWEEN THE DEVICE AND THE LIT OBJECT

2- GENERAL WARNING

Read the instruction contained in this user manual carefully, as they give important information regarding safety during installation , use and maintenance.
The device is not for domestic use and must be installed by a qualified electrician or experienced person.
Always disconnect the device from the mains before replacing the lamp.
The lamp must be replaced if it has been damaged or deformed by prolonged use or overheating.
The device must always be equipped with an efficient ground connection.

3- GENERAL WARRANTY CONDITIONS

The unit is guaranteed for 36 months from the date of purchase against manufacturing material defects.

4- TECHNICAL FEATURES

Overview

The DELTA 8 R is a self-contained high-output LED moving head projector suitable for lighting and colouring large surfaces.
The DELTA 8 R provides a powerful colour synthesis engine: * 16 million colours (RGB, FULL COLOUR), * linear colour temperature (2800°K to 6500°K).
The unit is available with interchangeable lenses sets offering a range of beam angles.
DELTA 8 RGB R: 108 x 1W P4 type RGB LEDs
DELTA 8 FULL COLOUR R: 36 Full Colour LEDs
DELTA 8 WHITE + AMBER R: 108 x 1W P4 type WHITE + AMBER LEDs

Applications

DELTA 8 R is ideal in various applications, such as: lighting shopping malls, libraries, museums, exhibitions, clubs, restaurants, buildings, monuments, as well as special events, fashion displays, indoor and outdoor.

5- TECHNICAL SPECIFICATIONS

LED technology

Delta 8 RGB R:108 x 1W P4 type RGB LEDs (36 Red, 36 Green, 36 Blue)
Delta 8 White + Amber R:108 x 1W P4 type White + Amber LEDs. (72 White, 36 Amber).
Delta 8 FULL COLOUR R: 36 x 3W P5 II Full colour LEDs
LEDs average lifespan: 100.000 hours
Colour temperature variable on a linear range (2800°K ÷ 6500°K)
No infrared emission; no ultraviolet emission

Optical units

4 interchangeable lenses sets available (Spot, Medium flood, Wide flood, Very wide flood)

User interface

OLED display

Independent operation

Fully programmable via built-in user interface
Master or Slave capability (chains of up to 32 interconnected units)

Remote control

Remotely controlled by cable or wireless (USITT DMX512)
USITT DMX 512 serial digital protocol (reception / transmission)
15 DMX channels

Protection

IP65 protection level

Head movements (horizontal / vertical axes)

Movement of the head on 3 axes: 280° horizontal (1,66 sec.) /180° vertical 1 (2,18 sec.) / 135° vertical 2; motorized movement on horizontal and vertical 1 axes

Power supply

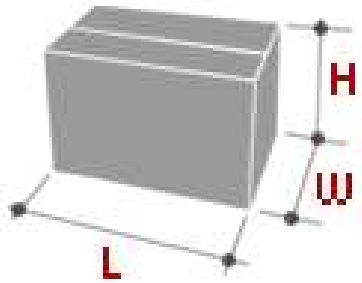
Full range AC 90-260V, 50-60Hz power supply
Power consumption Delta 8 RGB R / Delta 8 White + Amber R:
* 90 V - 2,6 A - 240 W
* 120 V - 2 A - 240 W
* 230 V - 1 A - 240 W
* 260 V - 0,9 A - 240 W

Power consumption Delta 8 FULL COLOUR R:
* 90 V - 3 A - 270 W
* 120 V - 2,5 A - 270 W
* 230 V - 1,17 A - 270 W
* 260 V - 1 A - 270 W

Movements (horizontal/pan – vertical/tilt axes)
Movement of the head on 3 axes: 280° horizontal (1,66 sec.) /180° vertical 1 (2,18 sec.) / 135° vertical 2; motorized movement on horizontal and vertical 1 axes
Thermal
Operating ambient temperature - 10° / + 40°
Finishes
Black or white finish
Certification and Safety
Certification CE;
LED Class
Class 2 LED product
Weight
24 Kg

Dimensions

Unit Dimensions (LxWxH)	Packaging Dimensions (LxWxH)
430x285x570 mm	530 x 500 x 660 mm
Weight:	Weight:
24 Kg	30 Kg



6- ACCESSORIES

As standard

• 2 x "C" Clamp GQUICK with "Fast Lock" connection 1/4 turn (max. load. 80Kg) (cod. 0521A014)
• ABS cover protection for Main AC and DMX cables on the base (cod. 0511C083)
• User's manual

Optional (on request)

Lenses sets (black colour assembly)
Delta 8 RGB R / White + Amber R:
Lenses set Spot (cod. 03.LK021) ,Lenses set MEDIUM flood (cod. 03.LK.022), Lenses set WIDE flood (cod. 03.LK.023), Lenses set VERY WIDE flood (cod. 03.LK.020)
Delta 8 FULL COLOUR R:
Lenses set Spot (cod. 03.LK098) ,Lenses set MEDIUM flood (cod. 03.LK.099), Lenses set WIDE flood (cod. 03.LK.100), Lenses set VERY WIDE flood (cod. 03.LK.020)

Flight cases
Flight case for 1 DELTA with no wheels (cod. 0521C029), Standard Flight case with wheels for 2 DELTA (cod. 0521C030), Professional Flight case with wheels for 2 DELTA (cod. 0521C030.1)

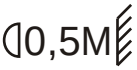
Clamps / safety wires
• "C" Clamp G60 black (max. load 50Kg) (cod. 0521A004)
• "C" Clamp G60 chrome (max. load. 50Kg) (cod. 0521A004.20)
• "C" Clamp GQUICK with "Fast Lock" connection 1/4 turn (max. load. 80Kg) (cod. 0521A014)
• "C" Clamp G100 black / professional (max. load. 200Kg) (cod. 0521A015)
• Omega clamp with "Fast Lock" connection 1/4 turn 1 couple (2 pieces) (Cod. 02K00467)
• Safety wire (3mm x 60 cm), ring spring catch, max. capacity load 60Kg (cod. 0521A010)

Cables / connectors
XLR 5 Pins male cable connector (cod. 0508B028)
XLR 5 Pins female cable connector (cod. 0508B027)

Wireless DMX
• Wireless DMX Receiver Card with OUTDOOR IP65 omnidirectional 2dBi antenna included (cod.03.LA.012)
•ANTENNA Outdoor 2dBi Omni-directional, radiation (HxV) 360°x360° (cod. 0508A040)
IR remote control for Delta 8 (cod. 0514L008)

7- IMPORTANT SAFETY INFORMATION

7.1 Fire prevention:

-Never locate the fixture on any flammable surface.
-Minimum distance from flammable materials: 1 MT.
-Minimum distance from the closest illuminable surface: 0,5 MT. 

-Replace any blown or damaged fuses only with those of identical value. Refer to the wiring diagram if there is any doubt.
-Connect the projector to mains power via a thermal magnetic circuit breaker.

7.2 Prevention of electric shock:

-High voltage is present inside the unit. Unplug the unit prior to performing any function which involves touching the inside of the moving head.
-The level of technology inherent in the DELTA 8 R requires the assistance of specialised personnel for all servicing. Please refer to an authorised DTS service centre.
-A good earth connection is essential for proper functioning of the projector.
-Never connect the unit without proper earth connection.
-The fixture should be located in places with a good air ventilation.

7.3 Safety:

-The projector should always be installed with bolts, clamps and other tools that are capable of supporting the weight of the unit.
-Always use a second safety cable to sustain the weight of the unit in case of the failure of the main fixing point.
-The external surface of the unit, at various points, may exceed 70°C. Never handle the unit until at least 10 minutes have elapsed since the projector was turned off.

-Never install the fixture in an enclosed area lacking sufficient air flow. The ambient temperature should not exceed 40°C.

7.4 Level of protection against the penetration of solid and liquid objects:

-The projector is classified as an ordinary appliance and its protection level against the penetration of solid and liquid objects is IP 65.

8- VOLTAGE AND FREQUENCY

The DELTA 8 R can operate at 90-260 VOLT 50 or 60 Hz.

9- INSTALLATION

DELTA 8 R may be either floor or ceiling mounted.
For floor mounting installations, the DELTA 8 R is supplied with four rubber mounting feet on the base.
For ceiling mounted installations, we reccomend the use of appropriate clamps to fix the unit to the mounting surface.
The supporting structure from which the unit is hung should be capable of bearing the weight of the unit, as should any clamps used to hung it. The structure should also be sufficiently rigid so as not to move or shake if moving head units are attached to it.
Two 1/4 turn Fast Locks connections placed in the base of the units allow to hang the DELTA 8 R by using the Fast Lock ‘C’ clamps provided in the box.
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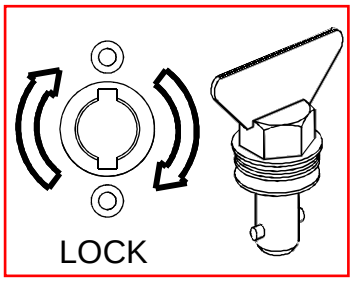


9.1- Safety cable

We recommend the use of a safety chain/cord connected to the DELTA 8 R and to the suspension truss in order to avoid the fixture accidentally falling should the main fixing point fail. Make sure that the iron cable or chain can bear the weight of the entire unit.
You may attach the safety chain/cord to the attachment points (A) located on the base of the fixture, as shown in the picture below.

9.2- Protection against liquids

The projector contains electric and electronic components which should under no circumstances come into contact with oil, water or any other liquid. The proper unit functioning would be compromised should this occur.

9.3- Movement

The projector has a maximum movement of 280° for Pan,180° for Tilt 1 and 135° for tilt 2 (7 mechanical steps 22,5° each).
DO NOT place any obstructions in the path of the projector's movement.

WARNING
Do not place
any object in the path
of the projector's
movement

Tilt 2 mechanical
regulation

TILT1 180°
Motorized

TILT2 135°
Mechanical

9.4- Risk of fire

Each fixture produces heat and must be installed in a well-ventilated place. The minimum recommended distance from flammable material is 1 MT.

Minimum distance from the object being illuminated is 0,5 MT. 0,5M

9.5- Forced ventilation

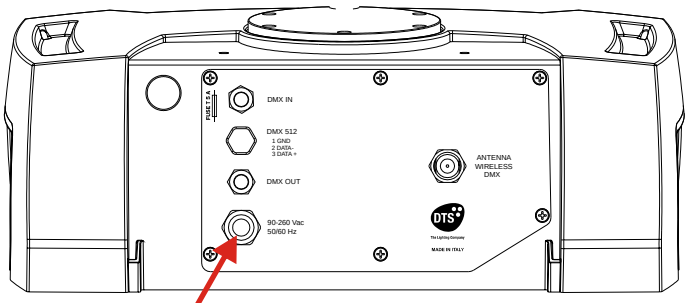
You will note, on inspection, that the unit feature a thermal dissipator on the head. This should, under no circumstances, be blocked or obstructed whilst the projector is in operation.
Doing so could cause the fixture to seriously overheat thereby compromising its proper operation.

9.6- Ambient temperature

The projector should never be installed in places that lack a constant air flow. The ambient temperature should NOT exceed 40°C.

10- MAINS CONNECTION

DELTA 8 R operate at 90-260 VOLT 50-60 Hz.
Prior to connecting the unit to your mains supply, ensure that the model in your possession correctly matches the mains supply available.
For connection purposes, ensure that your plug is capable of supporting 1,20 amps at 230V,
Or 3 amps at 90 V.
Strict adherence to regulatory norms is strongly recommended.



Mains
90-260V AC 50 / 60Hz

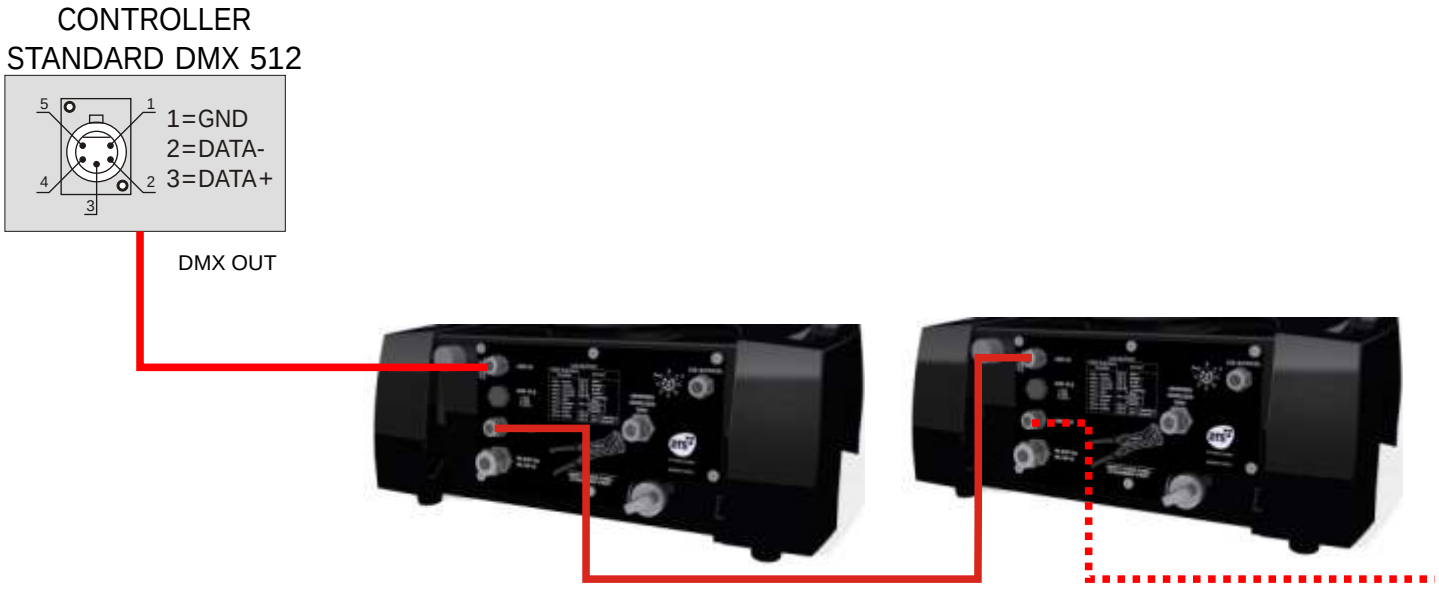
10.1- Protection

The use of a thermal magnetic circuit breaker is recommended for each DELTA 8 R.
A good earth connection is essential for the correct operation of the projector.

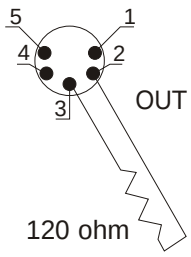
11- DMX SIGNAL CONNECTION

The unit operates using the digital DMX 512 (1990) signal. Connection between the mixer and the projector or between projectors must be carried out using a two pair screened ø 0.5 mm cable and a XLR 5 pins connector. Ensure that the conductors do not touch each other. Do not connect the cable ground to the XLR chassy.
The plug housing must be isolated. Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first projector to the DMX IN plug of the second one.
This way, all the projectors are cascade connected.
NB. If the display showing the DMX address flashes, then one of the following errors has occurred:

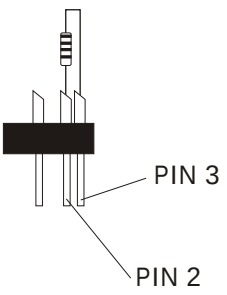
- DMX signal not present
- DMX address not valid
- DMX reception problem



For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.
The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistor between pin 2 and 3.
The DMX terminator must be plugged into the last unit (DMX out cable connector) of the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XRL CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE



11.1-DMX Addresses

DELTA 8 R (all models) have 15 DMX control channels.
Here below are described the DMX channels addressing for the controller:

Projector 1	A001	
Projector 2	A016	If you want to select the next projector, just add “15”
Projector 3	A031	
.....	A....	
projector 6	A091	

11.2-Selecting the DMX address

1) Press the UP-DOWN key until you reach the required DMX channel. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now setted to the new DMX address.
TRICKS:
if you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

12 FIRMWARE UPDATING

Warning:
This procedure require a base knolewge of Windows based computer applications
. Please refer to an authorised D.T.S. service centre.

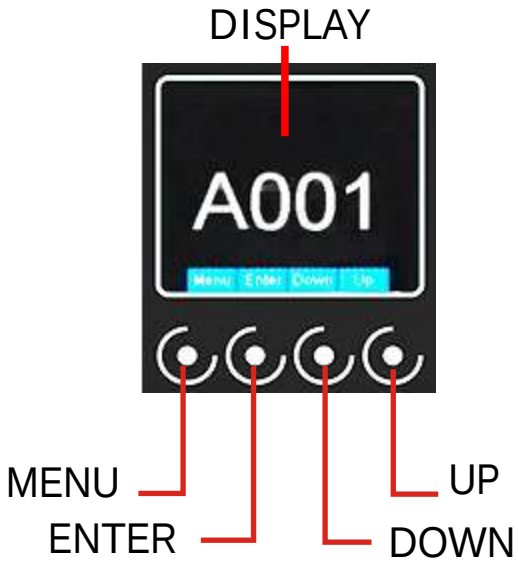
To update the software version of the DELTA 8 R you will need:
D.T.S. RED BOX interface (D.T.S. Code: 03.LA.008).
USB-DMX Driver for the D.T.S. RED BOX interface .
D.T.S. Firmware upgrade utility program.
(The driver and the installation procedure are available in our web site www.dts-lighting.it)

Updating the software version.
Please follow the procedure below to perform the update:

1. Install the D.T.S. RED BOX USB-DMX driver on the PC you will use to update the unit software.
2. Connect the D.T.S. RED BOX interface to the PC by using a USB cable.
3. Connect the D.T.S. RED BOX interface to the fixture by using a DMX cable.
4. Download the new software version into the unit by using D.T.S. Firmware upgrade utility program.

It will be possible to download the software from the reserved area of D.T.S. web site:
www.dts-lighting.it.

13- DISPLAY FUNCTIONS



DISPLAY FUNCTIONS

The DELTA 8 R display panel shows all the available functions . Using these functions, it is possible to change some of the parameters and add some functions. Changing the DTS setting can vary the functions of the unit so that it does not respond to the DMX 512 used to control it. Carefully follow the instructions below before carrying out any variations or selections.
NOTE: the symbol ☞ shows which key has to be pushed to obtain the desired function.

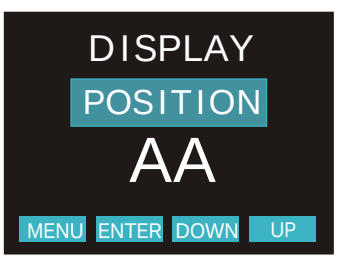
Software version 1.04 (Aug 2 2011)

☞ Menu ☞ Up-Down Display ☞ ENTER ☞ Up-Down

DISPLAY POSITION / STAND BY

Display Position:
Reverses display's reading depending on the mounting position
(On the ground or suspended).

Display Standby:
To turn off the display (after 5 seconds)
Or leave it always on.



Display Position ☞ ENTER
ON THE GROUND (Default)
SUSPENDED

Display Standby ☞ ENTER
OFF = Display Standby disabled (Default)
ON = Display goes OFF after 5 seconds

13- DISPLAY FUNCTIONS

Menu Up-Down DMX Set ENTER Up-Down

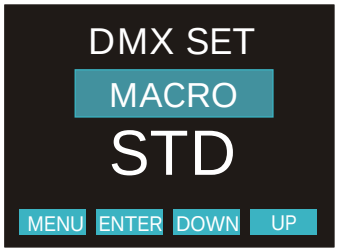
DMX MODE / MACRO
DMX Mode
To select DMX mode : RGB 15 channels (Default)
RGBW 16 channels (Reserved for future use)

Macro
Macro Function, enable channel mapping macro rainbow effects
STD (default)

DMX mode
RGB 15 channels (Default)
RGBW 16 channels (Reserved for future use)

ENTER

RGBW 16 channels (Reserved for future use)
NO FUNCTION ON DELTA 8 R



MACRO
Standard mode enabled (Default)
Extended mode enabled: Rainbow effects on MACRO channel

Menu Up-Down LED ENTER Up-Down

RGBA MINIMUM VALUES
This menu allow to select the minimum levels for Red, Green, and Blue

RGB MAXIMUM VALUES
This menu allow to select the maximum levels for Red, Green, and Blue

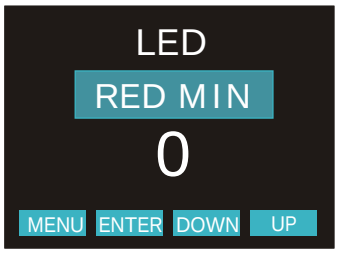
These settings have priority on Master Dimmer (DMX channel 7)

SMOOTH VALUE
This menu allow to select the value of the delay (in millisecons) for RGBA and Dimmer channels reaction to DMX or Program variation.
4 = 25 ms delay (Fast response)
20 = 250 ms delay (Slow response)

GAMMA CORRECTION
This menu allow to select between Linear current output or Quadratic current output for LEDs.
Default = Quadratic

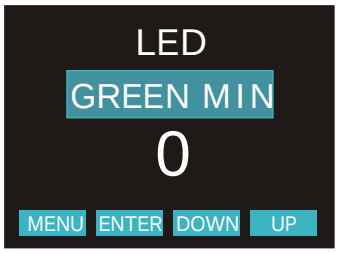
OUTPUT FREQUENCY
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings

BOOST DRIVING
This menu allow to increase the LED's current from 350mA to 500 mA

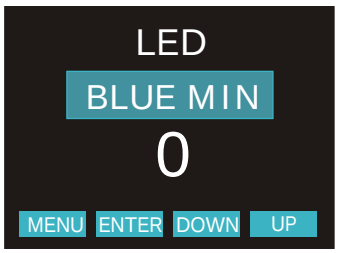


RED Min default =0
RED Max default = 255

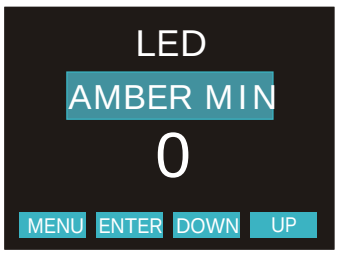
ENTER



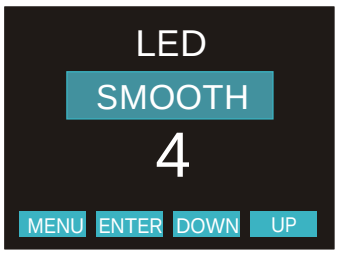
BLUE Min default =0
BLUE Max default = 255



GREEN Min default =0
GREEN Max default = 255



AMBER Min default =0
AMBER Max default = 255
NO FUNCTION ON DELTA 8 R



SMOOTH
Range = Off - 20
Default = 4

13- DISPLAY FUNCTIONS

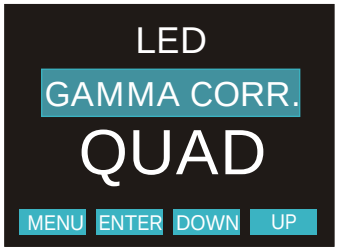
Menu Up-Down LED

GAMMA CORRECTION
This menu allow to select between Linear current output or Quadratic current output for LEDs
Default = Quadratic

OUTPUT FREQUENCY
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings

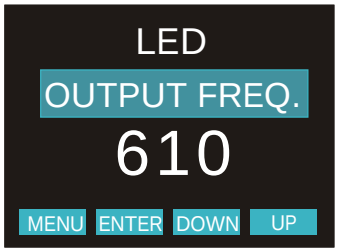
BOOST DRIVING
This menu allow to select the LED's driving current: 350 / 500 mA

ENTER Up-Down

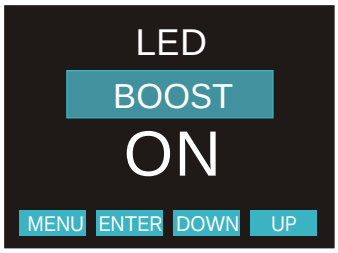


GAMMA CORRECTION
Linear = Linear courrent output
Quadratic = Linear light output
(Default)

ENTER



OUTPUT FREQUENCY
Range = 610 Hz -10 KHz
Default = 610 Hz



BOOST
Whit BOOST active,the LED's current is set to 500mA (30% more gain).
Default = Enabled

Menu Up-Down AUTO

AUTOMATIC MODE
Automatic demo game without DMX controller.

STEP 01/16
Chase with 16 steps previously created in REC MODE
Speed time, Wait time, Dimmer, Pan and Tilt values selectable by user.

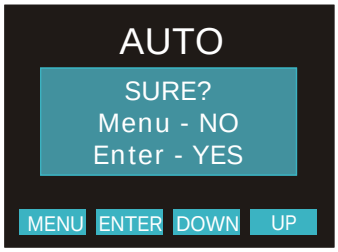
PERSONAL COLOURS
RGB, Dimmer, Shutter, Pan and Tilt values selectable by user.

RAINBOW
Rainbow colours effect.
Speed time, Dimmer, Shutter, Pan and Tilt values selectable by user.

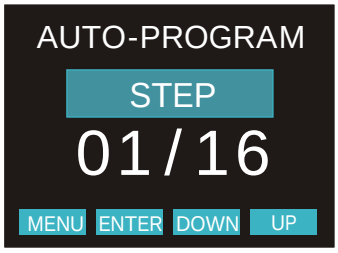
FIXED COLOURS
Sixteen Colour Macros as on "MACRO" channel.
Dimmer, Shutter, Pan and Tilt values selectable by user.

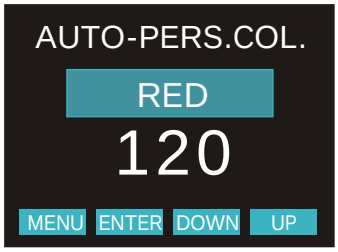
WHITE MACROS
Sixteen macros for White color from 2800 to 6500 ° K.
Dimmer, Shutter, Pan and Tilt values selectable by user.

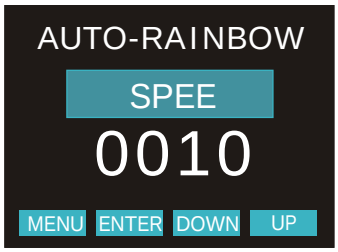
ENTER Up-Down



ENTER







13- DISPLAY FUNCTIONS

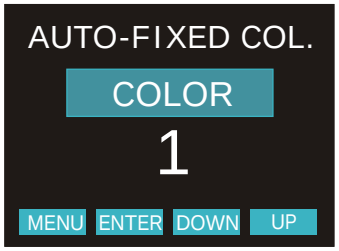
Menu Up-Down AUTO

AUTOMATIC MODE
Automatic demo game without DMX controller

FIXED COLOURS
Sixteen Colour Macros as on "MACRO" channel.
Dimmer, Shutter, Pan and Tilt values selectable by user.

WHITE MACROS
Sixteen macros for White color from 2800 to 6500 ° K.
Dimmer, Shutter, Pan and Tilt values selectable by user.

ENTER Up-Down



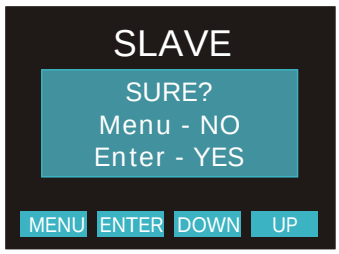
ENTER

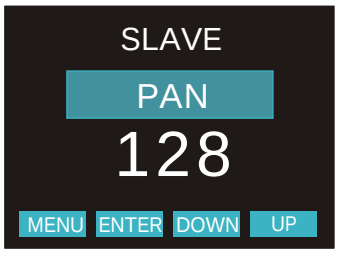
By setting all the units connected to the MASTER, to DMX address 1, them will be sinchronized with the Master unit following the chase selected on it, including TIME, WAIT, Pan and Tilt position of the MASTER unit.

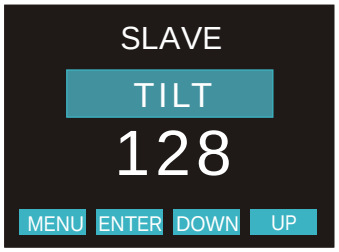
Menu Up-Down SLAVE

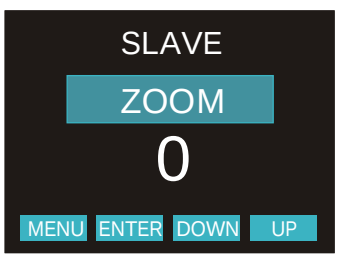
SLAVE MODE SETTING
This menu allow to set the DELTA 8 R as slave unit.
<u>DMX signal must be present from MASTER unit (set in AUTO MODE) in order to ran the units in SLAVE mode.</u>
By setting all the SLAVE units connected to the MASTER, to DMX address 1, them will be sinchronized with the Master unit following the chase selected on it, but running their own Pan&Tilt position.

ENTER Up-Down









ENTER

The SLAVE unit receive DMX signal from the MASTER unit.
By setting all the SLAVE units connected to the MASTER, to DMX address 1, them will be sinchronized with the Master unit following the chase selected on it, but running their own Pan&Tilt position.

13- DISPLAY FUNCTIONS

Menu Up-Down WIRELESS

ENTER Up-Down

WIRELESS DMX
Wieless DMX enabled / disabled.
By activating WDMX MODE, it will be possible to control DELTA 8 R via D.T.S. ANTENNA Wireless DMX Transmitter (cod. 03.E1271).
WIRELESS DMX system on DELTA 8 R is available on request.

NOTE:
Wireless DMX receiver card needed (cod. 03.LA.012).
External IP65 2dbi omnidirectional Antenna needed (cod. 0508A040)

WIRELESS DMX SYSTEM DISABLED

ENTER

WIRELESS DMX SYSTEM ENABLED

ENTER

UNLINK = LOG OUT

ENTER

Logging on DELTA 8 R (WIRELESS DMX must be enabled on the unit)

To log on the DELTA 8 R in the WIRELESS system simply press and quickly release the function button on the transmitter .
The transmitter will start flashing rapidly red/green scanning for new free receivers / DELTA 8 R units. When a DELTA 8 R logs on to the transmitter the LINK green light on transmitter starts to flash rapidly.
After approximately 10 seconds the transmitter will jump back to normal mode and continue transmitting data. The DELTA 8 R now try to synchronize to the transmitter.
When synchronized to the transmitter, 2 different modes are possible:
1. Antenna transmitter has detected and transmits a DMX signal, in this mode a solid green light is seen on the transmitter and solid display is seen on DELTA 8 R.
2. No DMX signal connected, the Antenna transmitter will flash red/green; display blinking on DELTA 8 R

To log off DELTA 8 R from a transmitter simply select UNLINK function under WIRELESS DMX MENU and press ENTER.
When DELTA 8 R is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out a DELTA 8 R
Select UNLINK function under WIRELESS DMX MENU and press ENTER.
When DELTA 8 R is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out all DELTA 8 R units linked to a transmitter
Press and hold the function button of the transmitter for about 3 seconds. When the display is blinking on DELTA 8 R, it mean that the units are logged out.

Transmitter, Status LED
Flashing red/green, no dmx connected.
Solid green, dmx signal detected and transmitted.
Fast flashing red/green, log in mode (every free DELTA 8 R unit, not logged in to any other transmitter, will be logged on)

DELTA 8 R Status
Display blinking, not logged on to a transmitter (free).
Solid display, logged on to a transmitter and receiving dmx data.

13- DISPLAY FUNCTIONS

Menu Up-Down EMERGECY

EMERGENCY
Emergency operating mode. By setting Emergency mode, it will be possible to select one of the 16 preprogrammed WHITE cues that will then ran if DMX signal is missing or not available. Usefull for Emergency EXIT ilumination on public areas. Dimmer level, Pan and Tilt values selectable by user.

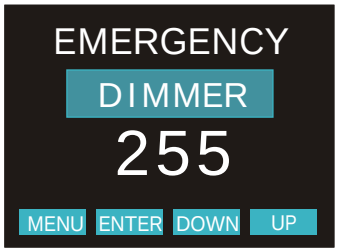
ENTER Up-Down

EMERGENCY
ON = Enabled
OFF = Disabled (Default)

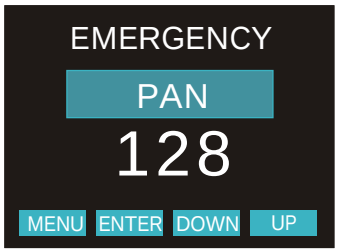
ENTER

EMERGENCY
Enabled

WHITE 1-16
Default = WHITE 1



DIMMER
Default = 255



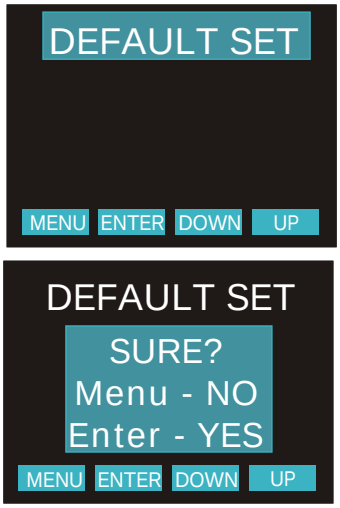
PAN
Default = 128

TILT
Default = 128

13- DISPLAY FUNCTIONS

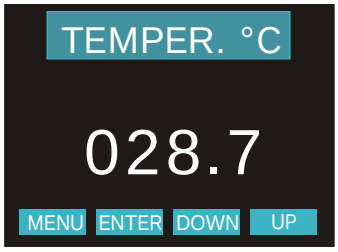
Menu Up-Down DEFAULT SET ENTER Up-Down ENTER

DEFAULT SETTINGS
To restore default settings



Menu Up-Down TEMPER. °C ENTER

TEMPERATURE
Unit temperature



Menu Up-Down TIME ENTER Up-Down ENTER

LIFE TIME
This menu show the total UNIT life time
and the RGBA life time

13- DISPLAY FUNCTIONS

Menu Up-Down SYSTEM — ENTER Up-Down

PAN INVERTION / TILT INVERTION / PAN-TILT SPEED / FAN MAX SPEED / RESET BY DMX / MOTORS FIRMWARE UPGRADE.

PAN INVERSION
This menu allows to set the Pan movement.
Normal or Reversed.

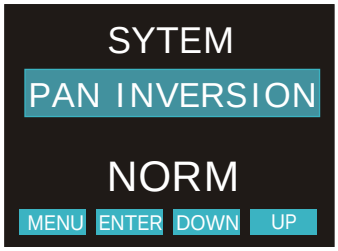
TILT INVERTION
This menu allows to set the Pan movement.
Normal or Reversed.

PAN TILT SPEED
Pan Tilt Speed control (1-4)

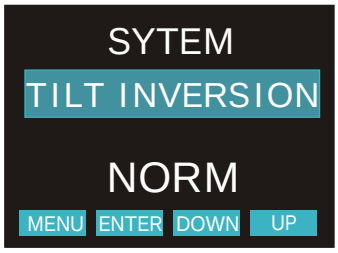
FAN MAX SPEED
This menu' allow to select the internal fans speed.

RESET BY DMX
This menu' allow to enable / disable the Motors reset control (Pan&Tilt and Zoom) via DMX.

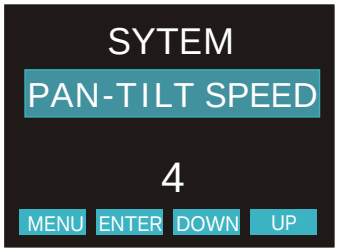
MOTORS FIRMWARE UPGRADE
This menu' allow to upgrade the firmware for Pan&Tilt circuit board.



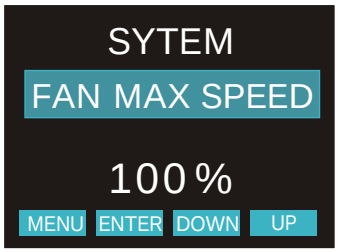
PAN INVERTION
Default = NORM
ENTER



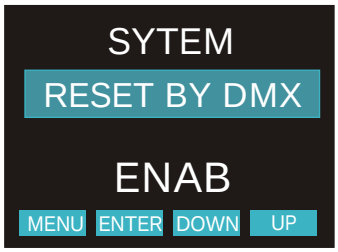
TILT INVERTION
Default = NORM



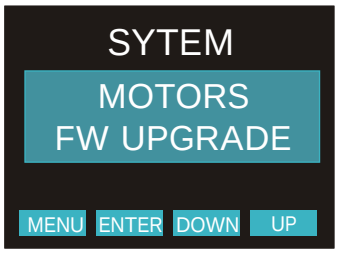
PAN TILT SPEED CONTROL
Default = 4



FAN MAX SPEED
50% - 100%
Default = 100%



RESET BY DMX
Enable: Motors reset enabled via DMX (Default).
Disabled: Motors reset disabled via DMX.
Now: Instant motors reset.

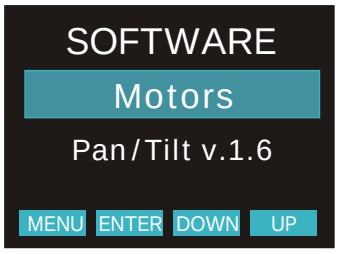


MOTORS FIRMWARE UPGRADE
Pan&Tilt circuit board firmware upgrade.

Menu Up-Down SOFTWARE — ENTER Up-Down

SOFTWARE
LEDs circuit board software, MOTORS circuit boards software (Pan&Tilt)

LEDs CIRCUIT BOARD SOFTWARE
ENTER



MOTORS CIRCUIT BOARDS SOFTWARE: PAN&TILT

14- AUTOMATIC OPERATION (AUTO)

DELTA 8 R can work in automatic mode without a DMX controller. First of all connect the projectors with a DMX cable (picture below). A maximum quantity of 32 slave units can be connected to the same Master unit.

To activate Auto mode on the first unit, use the menu to run through the different modes until AUTO appears on the display, and press enter.
Now it is possible to choose between the different pre-programmed games (STEP 01/16, PERSONAL COLOURS, RAINBOW, FIXED COLOURS, WHITE MACROS). To confirm game activation press ENTER on the selected GAME.
By setting all the units connected to the MASTER, to DMX address 1, them will be sinchronized with the Master unit following the chase selected on it, including TIME, WAIT, Pan and Tilt position of the MASTER unit.

MASTER/SLAVE

The first unit that will function as a Master must be set to Automatic mode (AUTO), the other units must be set to SLAVE mode (selectable through the menu) and DMX address 1. In this way all the Slave units will be sinchronized with the Master unit following the chase selected on it, but running their own Pan&Tilt position.

15- PERIODIC CLEANING

Front head Glass

The dust can reduce the luminous output substantially. Regularly clean the front head glass using a soft cotton cloth, dampened with a specialist glasses cleaning solution.

Air passages

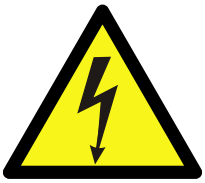
Air passages on head thermal dissipator must be cleaned approximately every 6 weeks. This periodic cleaning will depend of course, on the conditions in which the projector is operating. Suitable instruments for performing this type of maintenance are a brush and a common vacuum cleaner or an air compressor. If necessary, clean the air passages more frequently.

16- PERIODIC CONTROLS

Mechanical parts

Periodically check all mechanical parts and the gaskets;
Please refer to an authorized D.T.S. service centre in case mechanical parts should be replaced.

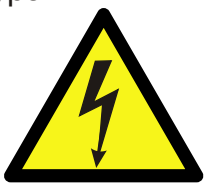
Electrical components



Periodically check the unit for correct earthing (grounding) on Main AC cable.
Attention: Disconnect mains power before any servicing or maintenance

Fuse replacement

Locate the fuse, which protect the electronics, in the base of the unit.
Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type if necessary.
Attention: Disconnect mains power before any servicing or maintenance



17- DMX PROTOCOL

15 CHANNELS MODE (DEFAULT)

1 PAN msb 540°
2 PAN lsb
3 TILT msb 270°
4 TILT lsb
5 SPEED MOVEMENT
6 SHUTTER
7 DIMMER
8 RED
9 GREEN
10 BLUE
11 WHITE PREPROGRAMMED
12 CTC
13 MACRO
14 FUNCTION
15 RESET

DMX CHANNEL	**1**	Parameter: **PAN msb**

DMX CHANNEL	**2**	Parameter: **PAN lsb**

DMX CHANNEL	**3**	Parameter: **TILT msb**

DMX CHANNEL	**4**	Parameter: **TILT lsb**

DMX CHANNEL	**5**	Parameter: **SPEED MOVEMENT**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-10					**Standard**
11-25					**Fast movement**
26-127					**Vector mode from fast to slow**
128-247					**Variable time reaction to DMX signal (fast to slow)**
248-255					**Slow reaction time to dmx signal**

DMX CHANNEL	**6**	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9					**Black - out**
10-19					**Open**
20-29					**Black-out**
30-119					**Strobe(from 3.27 s to 30 ms)**
120-149					**Pulse up (from 42.6s to120ms)**
150-179					**Pulse down(from 42.6s to120ms)**
180-204	**Random strobe (Dimmer, Red, Green, and Blue channels active)**				
205-229	**Full independent Random Strobe (Dimmer, Red, Green, and Blue channels disabled)**				
230-255					**Open**

DMX CHANNEL	**7**	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-7					**Black-out**
8-255					**Proportional dimmer**

DMX CHANNEL	**8**	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**9**	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**10**	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	11	Parameter: **WHITE (Pre-programmed White at diff. color temperature)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-55	**23**				**No Function**
56-105	**80**				**Full: Red-Green-Blue at Full (dimmer channel active)**
106-155	**130**				**White DTS**
156-205	**180**				**Custom White Create (RGB levels selectable by DMX)**
206-255	**230**				**White CTC (Channel 12 CTC enabled)**

DMX CHANNEL	12	Parameter: **CTC (Color temperature correction)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function

IF CHANNEL 11 WHITE PREPROGRAMMED = WHITE CTC (Dmx range value 206 - 255)

0-255	**Linear control temperature correction: 0 = 2800°K / 255 = 6800°K**

DMX CHANNEL	13	Parameter: **COLOUR MACROS**

IF: ☞ MENU ☞ Up-Down DMX SET ☞ ENTER ☞ Up-Down MACRO ☞ ENTER ☞ Up-Down STD ☞ ENTER (Please refer to page 14 for details)

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-29					**Macro 1**
30-44					**Macro 2**
45-59					**Macro 3**
60-74					**Macro 4**
75-89					**Macro 5**
90-104					**Macro 6**
105-119					**Macro 7**
120-134					**Macro 8**
135-149					**Macro 9**
150-164					**Macro 10**
165-179					**Macro 11**
180-194					**Macro 12**
195-209					**Macro 13**
210-225					**Macro 14**
226-239					**Macro 15**
240-255					**Macro 16**

DMX CHANNEL	13	Parameter: **COLOUR MACROS**

IF: MENU Up-Down DMX SET ENTER Up-Down MACRO ENTER Up-Down EXT ENTER (Please refer to page 14 for details)

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-24					**Macro 1**
25-34					**Macro 2**
35-44					**Macro 3**
45-54					**Macro 4**
55-64					**Macro 5**
65-74					**Macro 6**
75-84					**Macro 7**
85-94					**Macro 8**
95-104					**Macro 9**
105-114					**Macro 10**
115-124					**Macro 11**
125-134					**Macro 12**
135-144					**Macro 13**
145-154					**Macro 14**
155-164					**Macro 15**
165-174					**Macro 16**
175-184					**Rainbow Speed 1 (6 Sec.)**
185-194					**Rainbow Speed 2 (15 Sec.)**
195-204					**Rainbow Speed 3 (30 Sec.)**
205-214					**Rainbow Speed 4 (45 Sec.)**
215-224					**Rainbow Speed 5 (60 Sec.)**
225-234					**Rainbow Speed 6 (120 Sec.)**
235-244					**Rainbow Speed 7 (150 Sec.)**
245-255					**Rainbow Speed 8 (180 Sec.)**

DMX CHANNEL	14	Parameter: **FUNCTIONS (Recall,Create and Store the Custom white)**

IF CHANNEL 11 WHITE PREPROGRAMMED = Dmx range value 156 - 205

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79					**Custom White Recall**
80-160					**Custom White Create (Enable CH 8/9/10 for Custom white Creation)**
161-255					**Custom White Store (Store the Custom White created)**

DMX CHANNEL	15	Parameter: **RESET**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-15					**No Effect**
16-255					**Pan&Tilt reset (activation after 3 sec.)**

18- WIRING DIAGRAMS

1 x DMX IN
50 cm cable with
Neutrik XLR 5 pins
Male cable connector
on board

1 x DMX OUT
50 cm cable with
Neutrik XLR 5 pins
Female cable connector
on board

Main AC IN
power cord 3 x 1,5 sq millimeters
2 meters length

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and manufactured at the D.T.S.
plants in italy

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